WAD 2917
FF# 30

10/7/1993

BURLINGTON ENVIRONMENTAL

October 7, 1993

Certified Mail

Mr. Galen Tritt
Washington Department of Ecology
Northwest Regional Office
3190 160th Avenue S.E.
Bellevue, WA 98008-5452

Re: Submittals Required by Pier 91 Permit Appeal Resolution

Dear Mr. Tritt:

On September 20, 1993, the Pollution Control Hearings Board signed a final Stipulated Agreement and Order of Dismissal, thereby resolving the Pier 91 facility permit appeal. I have enclosed the following submittals required by the conditions of the Permit Addendum resulting from the appeal process:

- Attachment 1: revised design drawings for the leak detection systems for tanks 2705-2708 (Permit Condition IV.A.5).
- Attachment 2: revised facility inspection plan specifying procedures taken to determine whether liquid detected in the leak detection receptacle devices for tanks 2705-2708 is condensation or leaked material (Permit Condition IV.A.6).
- Attachment 3: revised closure plan specifying the procedures for analysis and/or decontamination or disposal of the leak detection systems for tanks 2705-2708 (Permit Condition IV.A.7).

I have included only those pages in the inspection and closure plans which actually change due to the revised language. As stated in these permit conditions, the Department has four weeks of receipt of these submittals to accept or deny the proposals, and failure to respond within four weeks shall constitute acceptance.

If you have any questions regarding these items, feel free to call me at 654-8087. I look forward to hearing from you soon.

Sincerely,

Keith A. Lund

Keith Lund
Senior Environmental Scientist

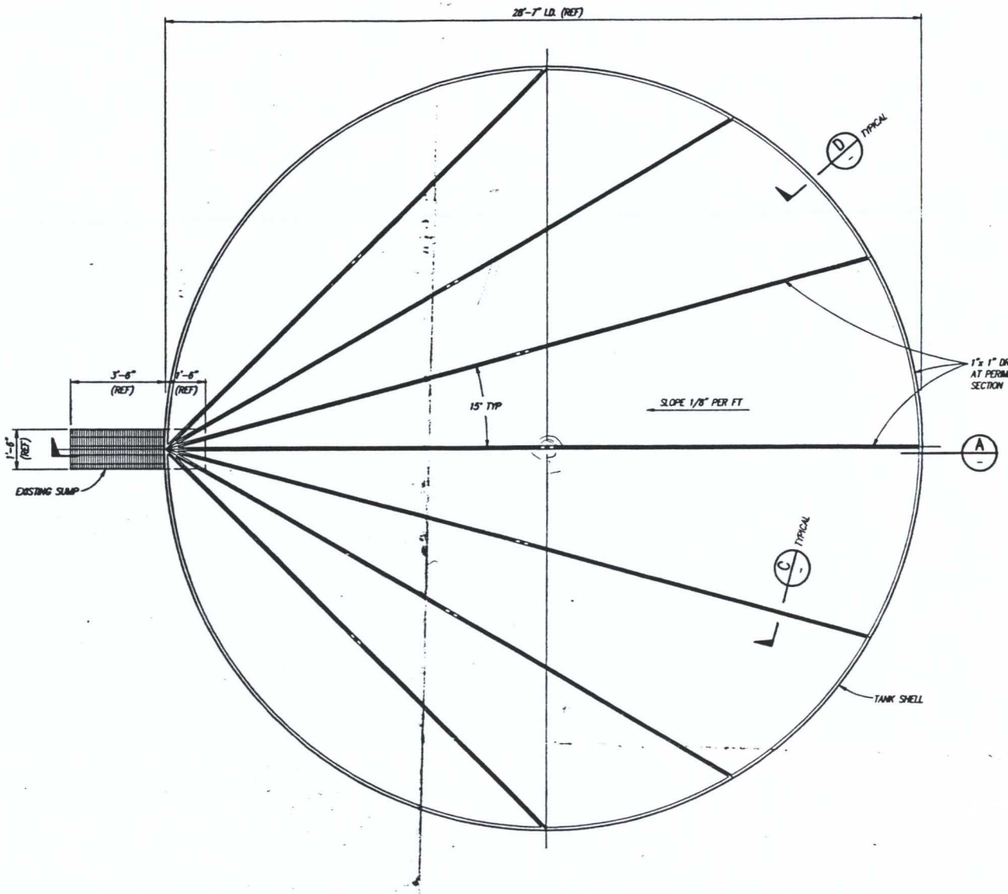
Attachments

cc: Gerald Lenssen, WDOE Permits Section
Carrie Sikorski, EPA Region 10
Doug Hotchkiss, Port of Seattle

Burlington Environmental Inc.
Waterfront Place One • Suite 700 • 1011 Western Avenue • Seattle, WA 98104
(206) 223-0500 • FAX: (206) 654-8164

Attachment 1

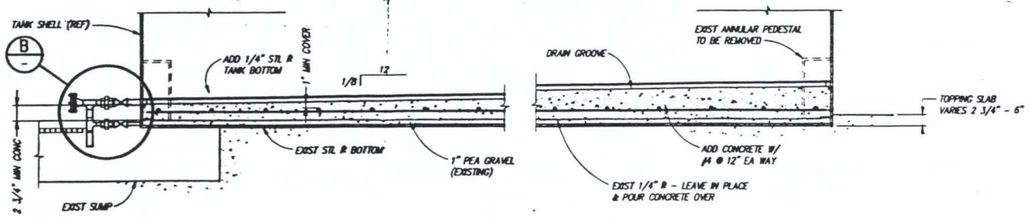
Revised Design Drawing for Tanks 2705-2708



DRAIN GROOVE PLAN – TANKS T2705 THRU T2708

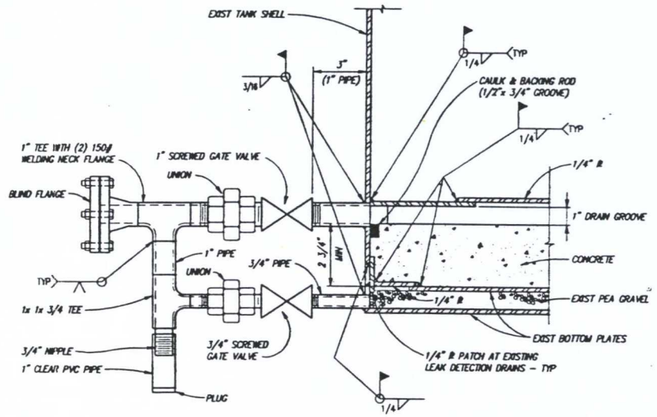
SCALE: 3/8" = 1'-0"

NOTE:
SEAL ANY PENETRATION INTO TANK FOR CONSTRUCTION PURPOSES WITH 1/4" ℄ AND FULL PENETRATION BUTT WELDED INTO PLACE.



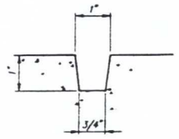
SECTION A

SCALE: NONE



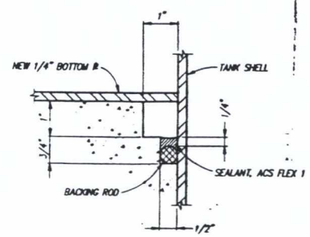
DETAIL B

SCALE: NONE



SECTION C

HALF SIZE



PERIMETER DRAIN GROOVE

SECTION D

HALF SIZE

STRUCTURAL NOTES (CONT.):

STRUCTURAL STEEL

A. Steel plate and shapes shall conform to ASTM A36.

B. All work shall be in accordance with AISC "Specification for Structural Steel Buildings", June 1989 and AISC "Code of Standard Practice for Steel Buildings and Bridges", September 1986.

C. Welding shall be done by AWS certified welders.

D. Welding shall conform to AWS D1.1 Structural Welding Code.

E. Welds shall be 3/16" minimum fillet welds.

F. Electrodes shall be E70-XX.

STRUCTURAL NOTES:

GENERAL

A. Any discrepancy found among the drawings, these notes and the site conditions shall be reported to the Construction Engineer, who shall correct such discrepancy in writing. Any work done by the Contractor after discovery of such discrepancy and prior to the Construction Engineer's written correction shall be done at the Contractor's risk. The contractor is responsible for all bracing and shoring during construction. All materials shall be as stated in these notes or as approved by the Owner.

B. The Contractor shall verify all dimensions at the construction site.

C. All construction shall conform to the applicable requirements of the 1991 UBC.

D. References:
ACI 301-89 Specifications for Structural Concrete for Buildings
ACI 302-89 Guide for Concrete Floor and Slab Construction
ACI 350-89 Concrete Sanitary Engineering Structures

CONCRETE

MATERIALS

A. Portland cement shall be Type II per ASTM C150.

B. Aggregates per ASTM C33 shall be favorable to low mixing water content by being well graded, by being well shaped (not elongated, flat or splintery) and avoiding clay, dirt and excessive fines. Aggregates shall consist of rock types that will produce low-shrinkage concrete such as quartz, limestone, dolomite, granite and feldspar.

C. Calcium chloride shall be prohibited.

D. Reinforcement shall be deformed bars per ASTM A615, grade 60.

E. Air-entraining admixture shall conform to ASTM C260.

F. Admixtures shall conform to ASTM C494.

CONCRETE MIXES

A. Site or ready mix concrete shall be provided per ACI 318, Chapter 4 and ACI 301, Chapter 7.

B. All concrete shall have a 28-day compressive strength of 4500 PSI, minimum 6 1/2 sack and 100 pounds fly-ash.

C. Concrete shall have the maximum aggregate size of 1/2 inch.

D. Concrete shall have the lowest practical sand content.

E. Fresh concrete shall have the lowest practical slump not exceeding 7 inches. The maximum permissible water-cement ratio shall not exceed 0.33. Design mix shall minimize shrinkage by use an approved water reducing admixture.

F. Concrete shall contain 1.5 percent air.

G. Admixtures shall conform to ASTM C494:
Superplasticizer - 131 oz/yd
Water reducer - 25 oz/yd

H. The contractor shall furnish mix proportions to the Owner for approval before mixing any concrete. The mix proportions shall be prepared by a testing laboratory approved by the Owner. Mix designs shall be prepared in accordance with ACI 301 and ACI 211.

I. Concrete shall have 50 pounds/yd microsilica additive.

CONCRETE HANDLING AND PLACING

A. Concrete shall be mixed and placed per ACI 318, Chapter 5 and ACI 301, Chapter 8.

B. Vibrators shall be the largest that can be operated in the placement.

FINISHING

A. All concrete shall be finished per ACI 302 to avoid all forms of surface cracking.

B. All concrete shall be trowel finished.

CURING

A. Curing shall begin immediately after completion of placement and finishing for concrete surfaces not in contact with forms.

B. Concrete slabs shall be treated with Ashford Formula by Curecrete Chemical Co. for curing of concrete. Curing and sealing agent shall be applied per manufacturer's recommendations.

DETAILS

A. Concrete cover over reinforcing bars, unless noted otherwise, shall be 1 inch.

B. Bars shall be securely tied in place with #16 double annealed iron wire. Bars shall not be welded or tack welded. Bars shall be supported upon acceptable chairs.

C. Splices in reinforcing shall be 21 inches for #4 bars.

D. Concrete shall be poured monolithically. Cracks in new concrete with width greater than four-thousandths inch shall be repaired by epoxy injection.

TESTING

A. Concrete: Three compressive strength specimens shall be made for each 75 cubic yards, or each day concrete is poured, whichever is greater. Sampling procedures shall conform to ASTM C172. Test cylinders shall be made and cured in compliance with ASTM C31. Cylinder testing procedures shall conform to ASTM C39.

B. Tests shall be made at 7 days and 28 days.

C. Testing and inspection reports shall be submitted to the Contractor, Owner and Engineer.

SEALANTS

A. ACS Flex 1 by Koch Industries.

B. Apply sealants per manufacturer's recommendations.

C. Backing rod - closed cell polyethylene foam.

CATHODIC PROTECTION

A. Cathodic protection shall be installed to protect tank bottom and walls as shown on drawing no. 43010.

EISI
CONSULTING ENGINEERS
1900 West Emerson Pl #200
Seattle, Washington 98119

DOUGLAS L. CONDIT STATE OF WASHINGTON 15620 REGISTERED PROFESSIONAL ENGINEER

EXPIRES

REV NO.	DATE	AUTHORIZATION	DESCRIPTION

BURLINGTON ENVIRONMENTAL INC.

TITLE: TANKS T2705 THRU 2708
SECONDARY TANK BOTTOM
PIER 91 FACILITY

DESIGNED	EISI/ECL	DRAWN	EISI/NPW	CHECKED	EISI/DLC	APPVD
SCALE	3/8" = 1'-0"	DRAWING NO.	23015			SHEET 1 OF 1
DATE	5/21/93					

23015-1.DWG 1:32 EISI JOB No. 4683

Attachment 2

Revised Inspection Plan Pages

TABLE F2-4. CONTAINER INSPECTION SCHEDULE

EQUIPMENT/AREA	INSPECTION OBSERVATION	FREQUENCY
Containers	- Check for leaks, swelling deterioration, corrosion, and open lids	- Weekly
	- Check that labels are visible, legible and in place	- Weekly
	- Check for proper stacking and incompatible storage	- Weekly
	- Check marked date of storage	- Weekly
Container Storage Area	- Check sump and containment structure for evidence of leakage, spills or accumulated liquids	- Daily
	- Check pad, berms, curbs, sumps and coatings for evidence of cracks, gaps, integrity, deterioration and corrosion or erosion	- Weekly

F2.2.2 Tank System Inspection Schedule

Revised, July 1990

40 CFR 264.194(b)(1),(2), 264.195(a),(b)(1),(2),(3)
WAC 173-303-640(4)(a)(i),(ii),(iv),(v)

The tank construction materials are inspected for leaking fixtures or seams, rust and corrosion or erosion. The area surrounding the tanks including the loading area, secondary containment structures and tank system piping and controls (ancillary equipment) are checked for integrity, deterioration and corrosion or erosion, obvious signs of leakage or spills and debris or vegetation accumulations. Overfilling control equipment is inspected to ensure good working order.

The construction of the leak detection systems for tanks 2705-2708 may result in the presence of condensation which could

collect in the leak detection receptacle devices (e.g., water released from concrete as it cures). If any liquid is detected in the receptacle during the daily inspection, a determination will be made as to whether the liquid is due to condensation or leaked material. This determination will be readily made based on the obvious differences in appearance and color between condensate (colorless water) and the materials typically stored in these tanks (e.g., brown, black, gray or yellow oily liquids, exhibiting characteristic sheen). If the liquid is determined to be leaked material, the procedures outlined in Section G, Contingency Plan, will be implemented.

All tanks are closed-roof and not subject to overtopping by wave or wind action, or precipitation, therefore WAC 173-303-640(4)(a)(iii) does not apply.

To ensure tanks are operated according to design specifications, waste streams are tested through Quality Assurance/Quality Control (QA/QC) procedures of the Waste Analysis Plan (see Section C) prior to unloading into the tanks and during treatment.

Tank condition assessment to detect corrosion, cracks, vessel integrity and wall thinning over time, is addressed in Section F2.2.3.

The centrifuge is inspected daily when in use. The unit is checked for proper operation, machinery maintenance and service, structural integrity, deterioration, corrosion or erosion and evidence of leakage or spills.

The activated carbon adsorption system used for removal of organics from tank venting will be tested weekly. A Gastech model 1214, or equivalent, will measure total hydrocarbon content at sampling ports in vent piping before the first carbon adsorber, and between the first and second adsorbers. When the carbon adsorption system's removal efficiency falls to 50

Attachment 3

Revised Closure Plan Pages

Volume III: Unit Costs, Pope-Reid Associates, Inc., St. Paul, Minnesota for U.S. EPA, Washington D.C., November 1986.)

Rinsate and cleaning residue from all three washings will be managed as a hazardous waste. All rinsate will be removed between each rinse by a vacuum truck or equivalent means. Rinsate and cleaning residues from incompatible tanks will not be comingled. The collected rinsate will be appropriately treated on-site, or when necessary sent off-site for treatment and disposal at a RCRA-permitted facility, using methods described later in this section.

Tanks 2705-2708 also contain leak detection systems which have been approved by Ecology. Daily inspections of the leak detection parts and regular tank integrity inspections are performed on these tanks to ensure no leaks occur. Any repairs to the tanks called for by the results of these inspections follow procedures outlined in Section F, Procedures to Prevent Hazards. Notification to Ecology occurs as required by Permit condition III.B.I. Since these procedures are followed decontamination of the leak detection system during closure for Tanks 2705-2708 is unnecessary. Being an integral part of Tanks 2705-2708, the leak detection systems will be closed in a manner consistent with the tanks themselves (e.g. left in place, scrapped) as described below.

Decontaminated tanks will be left in place on the containment pad, unless removal of concrete or soil under the containment system becomes necessary. As an alternative to decontamination and leaving tanks in place, tanks may be decontaminated and scrapped.

Tanks to be decontaminated and scrapped will be rendered unusable prior to leaving the facility. This will be accomplished by cutting the tanks in half, or cutting the ends off of the tanks. Prior to removal of decontaminated tanks, written proof of